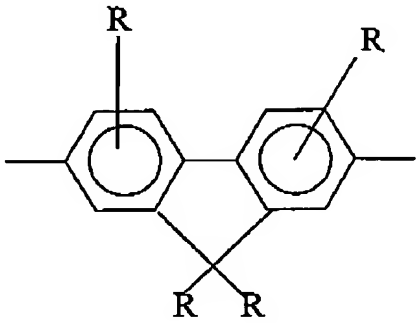
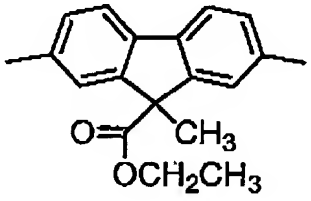
Listing of Claims

1. (Currently amended) A copolymer comprising at least one first monomeric unit and at least one second monomeric unit, wherein the at least one first monomeric unit has a Formulae I and I(a)

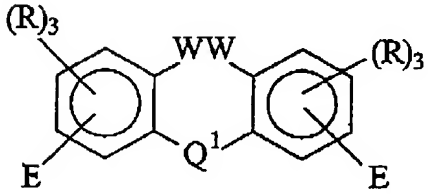


(I)



I(a)

and the at least one second monomeric unit is selected from aromatic groups having Formula V



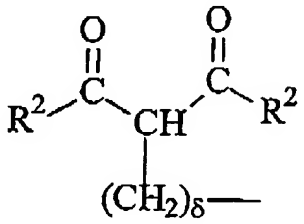
(V)

where:

in each of Formulae I, I(a) and V:

R is a substituent on a carbon atom which can be the same or different at each occurrence and is selected from hydrogen, alkyl, aryl, heteroalkyl,

heteroaryl, F, -CN, -OR^1, -CO_2R^1, -$C_\psi H_\theta F_\lambda$, -$OC_\psi H_\theta F_\lambda$, -$SR^1$, -$N(R^1)_2$, -$P(R^1)_2$, -$SOR^1$, -$SO_2R^1$, -$NO_2$, and beta-dicarbonyls having Formula XII



(XII)

or

wherein R^2 is selected from hydrogen, alkyl, aryl, heteroalkyl, and heteroaryl; δ is 0 or an integer from 1 to 12 and adjacent R groups together can form a 5- or 6-membered cycloalkyl, aryl, or heteroaryl ring, such that:

R^1 is a substituent on a heteroatom which can be the same or different at each occurrence and is selected from alkyl, aryl, heteroalkyl and heteroaryl; and

ψ is an integer between 1 and 20, and θ and λ are integers satisfying Equation A1 below:

$$\theta + \lambda = 2\psi + 1; \qquad \text{(Equation A1);}$$

in Formula V:

E can be the same or different at each occurrence and is a single bond or a linking group selected from arylene and heteroarylene;

~~in Formula V:~~

Q^1 is a carbonyl group, O, S, SO_2, or NR^1 where:

R^1 is a substituent on a heteroatom which can be the same or different at each occurrence and is selected from alkyl, aryl, heteroalkyl and heteroaryl;

W is H, alkyl or heteroalkyl; or both of W together can represent one single bond.

~~in Formula XII:~~

~~R^2 is selected from hydrogen, alkyl, aryl, heteroalkyl and heteroaryl;~~
~~δ is 0 or an integer from 1 to 12.~~

2. (Original) The copolymer of Claim 1, wherein R groups in one or more of the at least one first monomeric unit are independently selected from alkyl groups having 1 to 30 carbon atoms; heteroalkyl groups having 1-30 carbon atoms and one or more heteroatoms of S, N, or O; aryl groups having from 6 to 20 carbon atoms, and heteroaryl groups having from 2 to 20 carbon atoms and one or more heteroatoms of S, N, or O.

3. (Original) The copolymer of Claim 1 that excludes any vinylene monomeric units.

4. (Currently amended) The copolymer of Claim 1 wherein each R group in each of Formula I, I(a), and Formula V is selected from:

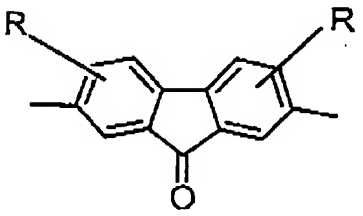
hydrogen;
alkyl;
aryl;
heteroalkyl;
heteroaryl;
F;
-CN;
$-P(R^1)_2$ and $-SOR^1$, where R^1 is a substituent on a heteroatom which can be the same or different at each occurrence and is selected from alkyl, aryl, heteroalkyl and heteroaryl;
$-NO_2$;
a beta-dicarbonyl having Formula XII ~~shown in Figure 12~~;
$-C_\psi H_\theta F_\lambda$;
$-OC_\psi H_\theta F_\lambda$;
$-OR^1$, $-CO_2R^1$, $-SR^1$, $-N(R^1)_2$, and $-SO_2R^1$ where R^1 is a straight chain or branched alkyl of more than 20 carbons or a straight chain or branched heteroalkyl.

5. (Original) The copolymer of Claim 1 wherein the at least one of the R groups in one or more of the at least one first monomeric unit is independently selected from linear and branched n-butyl groups; linear and branched iso-butyl groups; linear and branched pentyl groups; hexyl groups, and octyl groups with and

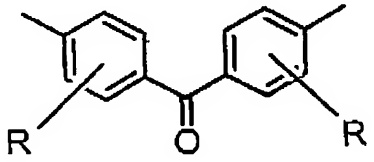
without olefinic unsaturation; phenyl groups, thiophene groups, carbazole groups, alkoxy groups, phenoxy groups and cyano groups.

6. (Original) The copolymer of Claim 1 wherein at least one of the R groups in one or more of the at least one first monomeric unit are independently selected from H, C_6-C_{12} alkoxy, phenoxy, C_6-C_{12} alkyl, phenyl and cyano.

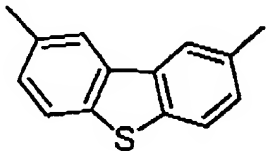
7. (Currently amended) The copolymer of Claim 1 wherein one or more of the at least one second monomeric unit is selected from Formulae V(a) through V(e)



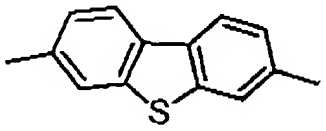
V(a)



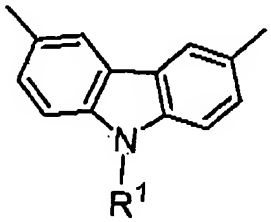
V(b)



V(c)



V(d)



V(e)

where:

in Formulae V(a), and V(b):

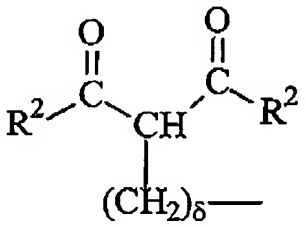
R is as described above for each of Formulae I, I(a), and V; and

in Formula V(e):

R^1 is a substituent on a heteroatom which can be the same or different at each occurrence and is selected from alkyl, aryl, heteroalkyl and heteroaryl.

8. (Canceled)

9. (Currently Amended) The copolymer of Claim 1, wherein one or more of the at least one second monomeric unit has Formula V wherein R is selected from:
partially or fully fluorinated alkyl groups having from 1 to 12 carbon atoms;
alkoxy groups having from 1 to 12 carbon atoms;
esters having from 3 to 15 carbon atoms;
$-SR^1$, $-N(R^1)_2$, $-P(R^1)_2$, $-SOR^1$, $-SO_2R^1$, where R^1 is an alkyl group having from 1 to 12 carbon atoms;
$-NO_2$; and
beta-dicarbonyls having Formula XII



(XII)

~~where:~~

~~In Formula XII:~~

wherein

R^2 is an alkyl group having from 1 to 12 carbon atoms and δ is 0, 1, or 2.

10. (Canceled)

11. (Canceled)

12. (Original) The copolymer of Claim 1, wherein one or more of the at least one second monomeric unit has Formula V wherein:
R groups are selected from H, C_6-C_{12} alkyl groups, C_6-C_{20} aryl groups, and C_2-C_{20} heteroaryl groups; and
the two W represent one single bond.

13. (Canceled)

14. (Original) An electronic device comprising at least one electroactive layer comprising the copolymer of Claim 1.

15. (Original) The device of Claim 14, wherein the device comprises a hole injection/transport layer comprising the copolymer of Claim 1.

16. (Original) The device of Claim 14, wherein the device comprises an electron injection/transport layer comprising the copolymer of Claim 1.

17. (Original) The device of Claim 14, wherein the electroactive layer comprises a light-emitting material comprising the copolymer of Claim 1.

18. (Original) The copolymer of Claim 1, further comprising end-capping groups comprising an aromatic group.

19. (Original) The device of Claim 14, wherein the device is selected from a light-emitting device, a photodetector, and a photovoltaic device.

20. (Original) The device of Claim 14, wherein the device is an electroluminescent display.